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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,697	08/31/2000	Duncan M. Kitchin	INTL-0406-US(P8989)	3821

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Timothy N Trop
Trop Pruner & Hu PC
Ste 100
8554 Katy Freeway
Houston, TX 77024

EXAMINER

NGUYEN, LEE

ART UNIT	PAPER NUMBER
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2682

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DATE MAILED: 02/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/652,697

Applicant(s)

KITCHIN, DUNCAN M.

Examiner

LEE NGUYEN

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the communication filed 12/5/2003.

Claims 3 and 30 have been canceled. Claims 1-2, 12-29 remain in prosecution.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-2, 4-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1, the claim is amended with the following:

A method comprising:

Determining a characteristic of a local noise source affecting a first transceiver;

using said characteristic to predict a time when the effect of the local noise source would be reduce and transmitting from a second transceiver to said first transceiver at said time.

After carefully review the newly amended term in claim 1, the only paragraph in the specification that supports the original claimed limitation before the amendment is found to be on page 12, lines 11-15. In this paragraph, each node receives a statistic packet from a node to which it intends to transmit. The statistic packet provides information about the local interference conditions proximate to the intended recipient node.

Thus, based upon said disclosure there is nowhere in the specification that supports the amended limitation in claim 1.

Independent claims 9, 12 and dependent claims 10-11, 13-14 are rejected for the same reason.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 8, 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "said information" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: there is no information regarding transmitting step so that the step of receiving information can be produced.

Claim 14 recites the limitation "said module" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 15-27 are rejected under 35 U.S.C. 102(b) as being anticipated by West (US 5,574,979).

Regarding claims 15, 19, 22, 25, West teaches a method comprising: receiving a noise signal at 4509 (fig. 45); identifying a characteristic in said noise signal without demodulating said signal (detected without demodulation using the SYNC circuit for measuring RSSI of the periodic noise, see figure 45, items 4509 and 4511, col. 61, line 38); and using said characteristic to identify said noise signal (col. 61, lines 25-30).

Regarding claim 16, West also teaches using said characteristic to predict the behavior of said signal without demodulating said signal (col. 61, lines 25-30).

Regarding claims 17-18, West also teaches time characteristic including periodicity to predict the future of said noise signal (see periodic interference, col. 61, lines 26-33).

Regarding claim 20, West also teaches controlling transmission to reduce the likelihood of interference at an intended transmission recipient (col. 61, lines 28-33).

Regarding claim 21, West also teaches circuit that develops a statistical estimation of the likelihood of the occurrence of the noise signal based on the nature of the characteristic (col. 61, lines 28-30).

Regarding claims 23, 26, West also teaches receiving a slotted noise signal and determined the probability that a given slot is occupied (periodic interference is present, col. 61, lines 29-30).

Regarding claim 24, the claim is interpreted and rejected for the same reason as set forth in claim 18.

Regarding claim 27, the claim is interpreted and rejected for the same reason as set forth in claim 18.

7. Claims 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Carlson (US 6,374,082).

Regarding claim 12, Carlson teaches a transceiver 12 (fig. 2), comprising: a unit 22, 24 to process information about a noise source remote from said transceiver and to analyze said noise source to predict a time when the effect of said noise source would be reduced (col. 3, lines 38-47 and col. 4, lines 10-13).

Regarding claim 13, the transceiver 12 of Carlson is also a network node.

Regarding claim 14, Carlson also teaches the RSSI circuit (col. 3, line 45).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-2, 6-7, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson (US 6,374,082) in view of Allen et al. (US 6,256,478).

Regarding claim 1, Carlson teaches a method comprising:
determining a characteristic of a local noise source affecting a first receiver (col. 3, lines 38-47, periodic noise 10); using said characteristic to predict a time when the effect of the local noise source would reduce (col. 3, lines 41-43, col. 4, lines 11-13, predicted quiescent period 11); and transmitting from a second transceiver to said first transceiver at said time (col. 4, lines 10-13). In Carlson the method involves communication between a first transceiver 12 and a second receiver. Carlson does not explicitly teach that

the receiver involved can also be a transceiver. In an analogous art, Allen teaches interference prevention that occurs between a first transceiver and a second transceiver (col. 2, lines 42-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the second transceiver of Allen into the place of the second receiver of Carlson so that interference can be prevented in two-way communication.

Regarding claim 2, Carlson as modified also teaches using the characteristic at the second transceiver or network node to control wireless information to the first transceiver or first node (col. 4, lines 10-13 of Carlson).

Regarding claims 6-7, Carlson teaches that the periodic noise 10 is detected and identified using either an AM demodulator or RSSI to generate a synchronization signal (col. 3, lines 42-47 and col. 4, line 10-11). Therefore, if using the RSSI, the AM demodulator is not used.

Regarding claim 9, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 10, Carlson as modified teaches transmission of information during the quiescent period; therefore, it also reduces the

probability of interference between said transmission and the local noise source.

10. Claims 4-5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson in view of Allen as applied to claims 1 and 9 above, and further in view of Hess.

Regarding claims 4 and 11, Carlson as modified fails to teach determining a probability of a transmission occurring at a given time from the noise source. In order to mitigate interference, Hess teaches determining a probability of a transmission occurring at a given time from the noise source on a channel (col. 5, lines 33-34 and line 47-48 and lines 20-21, not performing transmit and receive period). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the probability of Hess into the system of Carlson to mitigate interference when the determination of interference is unsure.

Regarding claim 5, Carlson as modified teaches delaying the transmission as claimed (not transmitting during noise is on, col. 4, lines 11-13 of Carlson).

11. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hess in view of West.

Regarding claim 28, Hess teaches a method comprising: measuring a signal strength (col. 5, line 30); determining when a radio frequency device is actively transmitting or receiving and analyzing the received signal strength when the device is not actively transmitting or receiving (col. 5, lines 17-21, lines 22-34). Hess fails to teach predicting the behavior of the noise signal without demodulating the noise source. However, West teaches that the prediction the behavior of the noise signal can be detected without demodulation using the SYNC circuit for measuring RSSI of the periodic noise (see figure 45, items 4509 and 4511, col. 61, line 38). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the non-demodulation technique of West to the user terminal of Hess in order to reduce the complexity of detection when the noise source is a periodic noise source.

Regarding claim 29, Hess also teaches analyzing the signal strength to determine a characteristic of a noise signal (col. 5, lines 22-34).

Response to Arguments

12. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Regarding the rejection of independent claim 15, Applicant contends that West only teaches using a characteristic of the noise signal determined without demodulating that signal "to identify said noise signal". Therefore, West does not teach the identification of the noise signal.

In response, what is the identification of the noise signal? The claim only requires using the characteristic to identify the noise signal. In West, the sync circuit 4509 is used to evaluate the RSSI and communication error rates to determine whether periodic interference is present. Therefore, this teaching of West does meet the claimed limitation.

Regarding the rejection of independent claim 22, Applicant argues that claim 22 requires "to predict the behavior of said signal without demodulating signal"; as a result, there is no prediction in West.

In response, using the RSSI and the communication error rates, the sync circuit of West can determine or predict the periodic interference present.

Regarding the rejection of independent claim 28, Applicant argues that neither Hess nor West teach predicting the behavior of the noise signal

without demodulating said signal based on the received signal strength when the device is not transmitting or receiving.

In response, the combination Hess and West does teach said limitation as addressed in the above rejection.

Conclusion

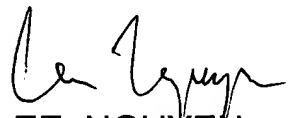
13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEE NGUYEN whose telephone number is (703)-308-5249. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIVIAN CHIN can be reached on (703) 308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 2/12/04
LEE NGUYEN
Primary Examiner
Art Unit 2682